

ABSTRACT

The present invention is directed to provide a tungsten-based sintered body having a relative density of 99.5% or more (a porosity of 0.5 volume % or less) and a uniform and isotropic structure, which has not been able to be achieved by conventional techniques. In particular, the tungsten-based sintered body is intended for use as a discharge lamp electrode, a sputtering target, a crucible, a radiation shielding member or a resistance welding electrode. The intended tungsten-based sintered body is produced by subjecting a tungsten-based powder to a CIP process at a pressure of 350 MPa or more to form a powder compact, sintering the powder compact in a hydrogen gas atmosphere at a sintering temperature of 1600°C or more for a holding time of 5 hours or more to form a sintered compact, and subjecting the sintered compact to a HIP process in an argon gas atmosphere under conditions of 150 MPa or more and 1900°C or more. The tungsten-based sintered body of the present invention is suitably used, for example, as a discharge lamp electrode, a sputtering target, a crucible, a radiation shielding member, an electric discharge machining electrode, a semiconductor element mounting substrate and a structural member.